Exam DEMO Professional

2 July 2009

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Assignment 1 (10 points)

Suppose there is an object class A with sub classes B and C. Explain why B and C must be disjoint if A is the generalization of B and C, and that B and C may overlap if they are specializations of A. Illustrate your explanation, if possible, with examples from the Lifetime case.

Assignment 2 (10 points)

What is in general the drawback of delegation of authority? Illustrate your answer for the case that the accept/reject step in a purchase transaction of physical goods is delegated by the purchaser to a warehouse employee.

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Assignment 3 (10 points)

Characterize the next changes in a hotel as primarily ontological, infological or datalogical:

The possibility to make room reservations via the web site of the hotel.

The possibility to rent a car from the hotel.

The possibility to check out on the TV at the room.

The possibility to choose a room yourself at check-in time.

Applying room rate reductions, e.g., depending on the number of hotel stays of a customer in the past 24 months.

Assignment 4 (10 points)

What is the claim to sincerity in Habermas' theory of communicative action? Illustrate it, taking the refusal by Lifetime (assignment 5) to bind a term life insurance policy as the example.

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Assignment 5 (60 points)

The insurance company Lifetime offers two types of life insurance products: term life insurance and pension insurance. A term life insurance protects the beneficiaries against the financial damage they may suffer when the insured dies during the policy term. A pension insurance protects the insured, among other things, against income loss as a result of reaching the pension age. Although Lifetime sells their products both to individual persons and to collectivities, we will only consider the case of individual persons.

A person who wants to take an insurance policy typically starts with asking Lifetime for advice about the product(s) that would best suit him or her. This advice can be given in a face-to-face meeting with an employee of Lifetime but it can also be done in a telephone call. People who have asked for advice are called candidate insurants by Lifetime.

If a candidate insurant is interested in a product, he/she asks for a quotation. Quotations are sent to candidate insurants by postal mail. By signing and sending back a copy of a quotation, the candidate insurant indicates that he/she wants to take the offered insurance policy. Lifetime calls this action policy binding.

As soon as such a request is received, Lifetime checks whether the risk is acceptable, i.e. whether Lifetime can bear the risk itself. If not, a part of the insured amount will be reinsured with a reinsurer. This reinsurer can be a regular insurance company or an insurance company that is specialized in reinsuring. In some cases, reinsurance is legally obligatory. Lifetime pays a periodic reinsurance premium for every reinsurance policy.

As soon as an insurance policy is bound, the candidate insurant becomes insurant. He or she has to pay a periodic premium for the insurance for as long as it exists. We will not consider the ending of insurance policies.

Sub assignments

1. Produce the Actor Transaction Diagram and the Transaction Result Table of the case Lifetime, based on the information that is provided above. **(30 points)**
2. Produce the State Model of the case Lifetime, based on the information that is provided above. **(20 points)**
3. Produce the Organization Construction Diagram of the case Lifetime, based on the results so far and the information that is provided above. **(10 points)**

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Generalization is defined as the union of a number of categories (EO p. 54). By definition categories are disjoint.
Example in Lifetime: INSURANCE PRODUCT is a generalization of PENSION INSURANCE PRODUCT and TERM LIFE INSURANCE PRODUCT.

Specialization is defined as a subtype of an object type (EO p. 54). It is very well possible that two specializations of the same object type overlap.
Example in Lifetime: insurant (extensionally defined in the OFD) and candidate insurant (intensionally defined in the OFD).

Assignment 2 (10 points)

What is in general the drawback of delegation of authority? Illustrate your answer for the case that the accept/reject step in a purchase transaction of physical goods is delegated by the purchaser to a warehouse employee.

The drawback is that the person to whom the authorized person (thus the executor of the transaction at hand) has delegated one or more transaction steps, may apply different norms in dealing with the business events to which he is allowed to respond. (EO pp. 194-195).
For example, the warehouse employee may accept deliveries of goods that the purchaser would consider unacceptable.

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Assignment 3 (10 points)

Characterize the next changes in a hotel as primarily ontological, infological or datalogical:

The possibility to make room reservations via the web site of the hotel.
Datalogical

The possibility to rent a car from the hotel.
Ontological

The possibility to check out on the TV at the room.
Datalogical

The possibility to choose a room yourself at check-in time.
Ontological

Applying room rate reductions, e.g., depending on the number of hotel stays of a customer in the past 24 months.
Infological (or ontological if one focusses on the new service)

Assignment 4 (10 points)

What is the claim to sincerity in Habermas' theory of communicative action? Illustrate it, taking the refusal by Lifetime (assignment 5) to bind a term life insurance policy as the example.

The claim to sincerity is the validity claim regarding a communicative act that is oriented towards the subjective world of the performer (EO p. 107). The claim is satisfied if the performer is sincere is his or her act.
The refusal to bind a term life insurance policy in the case Lifetime has to be understood as the decline of a T03. This may happen if Lifetime considers the risk too high, even if reassurance could be applicable. The dominant validity claim, however, would then be the claim to truth (the risk is too high). The performer would act insincere if he or she declines the request in T03 although the risk is not too high, given the objective figures.

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Assignment 5 (60 points)

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As soon as such a request is received, Lifetime checks whether the risk is acceptable, i.e. whether Lifetime can bear the risk itself. If not, a part of the insured amount will be reinsured with a reinsurer. This reinsurer can be a regular insurance company or an insurance company that is specialized in reinsuring. In some cases, reinsurance is legally obligatory. Lifetime pays a periodic reinsurance premium for every reinsurance policy.

As soon as an insurance policy is bound, the candidate insurant becomes insurant. He or she has to pay a periodic premium for the insurance for as long as it exists. We will not consider the ending of insurance policies.

Sub assignments

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2. Produce the State Model of the case Lifetime, based on the information that is provided above. **(20 points)**
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Analysis

The insurance company Lifetime offers two types of life insurance products: term life insurance and pension insurance. A term life insurance protects the beneficiaries against the financial damage they may suffer when the insured dies during the policy term. A pension insurance protects the insured, among other things, against income loss as a result of reaching the pension age. Although Lifetime sells their products both to individual persons and to collectivities, we will only consider the case of individual persons.
From this part we can deduce that there is an object class INSURANCE PRODUCT, which is the generalization of the categories TERM LIFE INSURANCE PRODUCT and PENSION INSURANCE PRODUCT.

A person who wants to take an insurance policy typically starts with asking Lifetime for advice about the product(s) that would best suit him or her. This advice can be given in a face-to-face meeting with an employee of Lifetime but it can also be done in a telephone call. People who have asked for advice are called candidate insurants by Lifetime.
We identify the first transaction kind (T01), called "providing advice", with result kind (R01) "advice A has been provided". The initiator of T01 is the external composite actor role CA01 (person), and the executor is A01 (advice provider). An advice is related to an insurance product. This means that there is a category ADVICE and a binary fact kind "<advice> concerns <insurance product>". Next, a defined unary fact kind "candidate insurant" can be identified, with domain PERSON (which is an external category).

If a candidate insurant is interested in a product, he/she asks for a quotation. Quotations are sent to candidate insurants by postal mail. By signing and sending back a copy of a quotation, the candidate insurant indicates that he/she wants to take the offered insurance policy. Lifetime calls this action policy binding.
We identify two transaction kinds. The first one (T02) is called "insurance policy quotation", with result kind (R02) "insurance policy IP has been quoted". The initiator of T02 is the external composite actor role CA02 (candidate insurant) and the executor is A02 (insurance policy quoter). Next we identify the category INSURANCE POLICY, as well as two binary fact types: "the insurant of <insurance policy> is <person>", and "<insurance policy> regards <insurance product>".
The other transaction kind (T03) is called "insurance policy binding", with result kind (R03) "insurance policy IP has been bound". The initiator is CA02 and the executor is A03 (insurance policy binder).

As soon as such a request is received, Lifetime checks whether the risk is acceptable, i.e. whether Lifetime can bear the risk itself. If not, a part of the insured amount will be reinsured with a reinsurer. This reinsurer can be a regular insurance company or an insurance company that is specialized in reinsuring. In some cases, reinsurance is legally obligatory. Lifetime pays a periodic reinsurance premium for every reinsurance policy.
We identify two transaction kinds. The first one (T04) is called "reinsurance policy binding", with result kind (R04) "reinsurance policy RIP has been bound". The initiator of T04 is A03 and the executor is the external composite actor role CA03 (reinsurance company).
Note that this transaction is very similar to T03, the main difference being that the insurant is now the insurance company itself. Although there would be an elegant solution in which recursion is applied, we will proceed solving the case straightforward. Note also that there is no talk about quotation of reinsurance policies; therefore we leave this out. We also identify the category REINSURANCE POLICY and he binary fact kind "<reinsurance policy> concerns <insurance policy>".
The second transaction kind (T05) is called "reinsurance premium payment", with result kind (R05) "the premium for reinsurance policy RIP for period P has been paid". The initiator of T05 is CA03 and the executor is A05 (reinsurance premium payer). Consequently we identify the category PERIOD.

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As soon as an insurance policy is bound, the candidate insurant becomes insurant. He or she has to pay a periodic premium for the insurance for as long as it exists. We will not consider the ending of insurance policies.

Also in this short piece of text, we identify two transaction kinds. The first one (T06) is called "insurance premium payment", with result kind (R06) "the premium of insurance policy IP for period P has been paid". The executor of T06 is the external composite actor role CA04 (insurance premium payer) and the initiator cannot be otherwise than a self-activating (internal) actor role. Let us call it A07 (premium payment manager). This actor role is also initiator and executor of transaction kind T07, called "premium payment management", with result kind (R07) "the premium payment management for period P has been done".

Note that we have called CA04 "insurance premium payer". An alternative name would be "insurant". However, this is less precise since insurance premium payer is a role of insurant.

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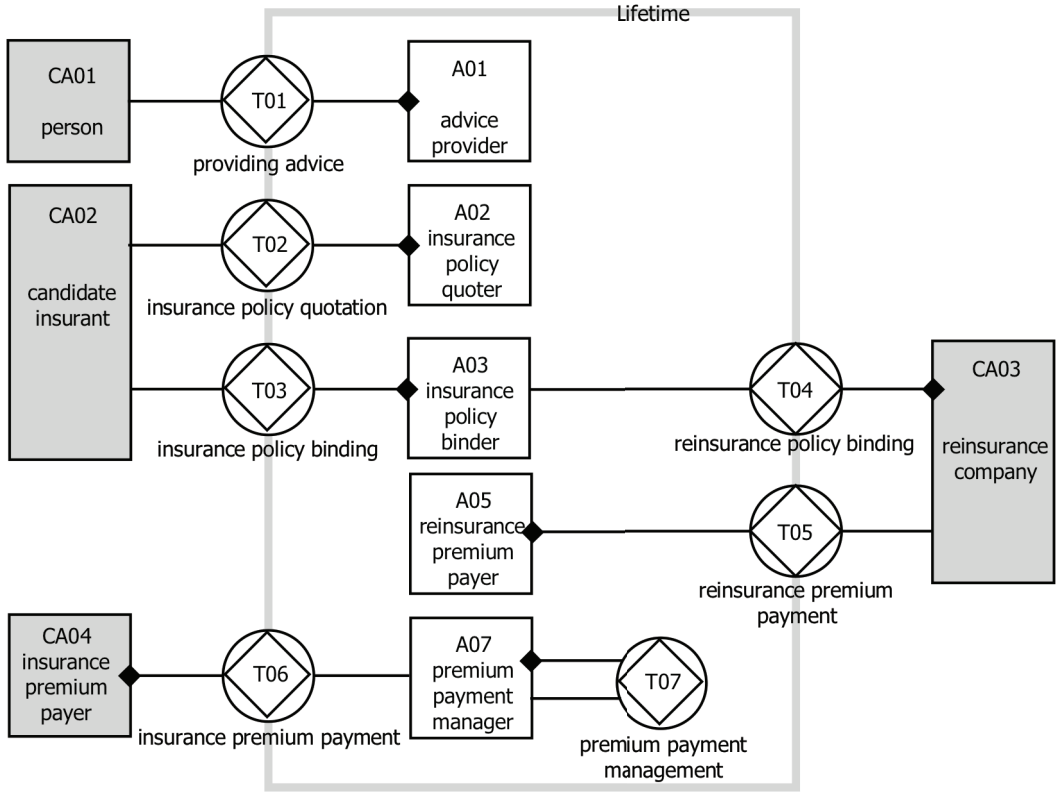
Actor Transaction Diagram



Transaction Result Table

Transaction kind	Result kind
T01 providing advice T02 insurance policy quotation T03 insurance policy binding T04 reinsurance policy binding T05 reinsurance premium payment T06 insurance premium payment T07 premium payment management	R01 advice A has been provided R02 insurance policy IP has been quoted R03 insurance policy IP has been bound R04 reinsurance policy RIP has been bound R05 the premium for RIP for period P has been paid R06 the premium for IP for period P has been paid R07 the premium payment mgt for period P has been done

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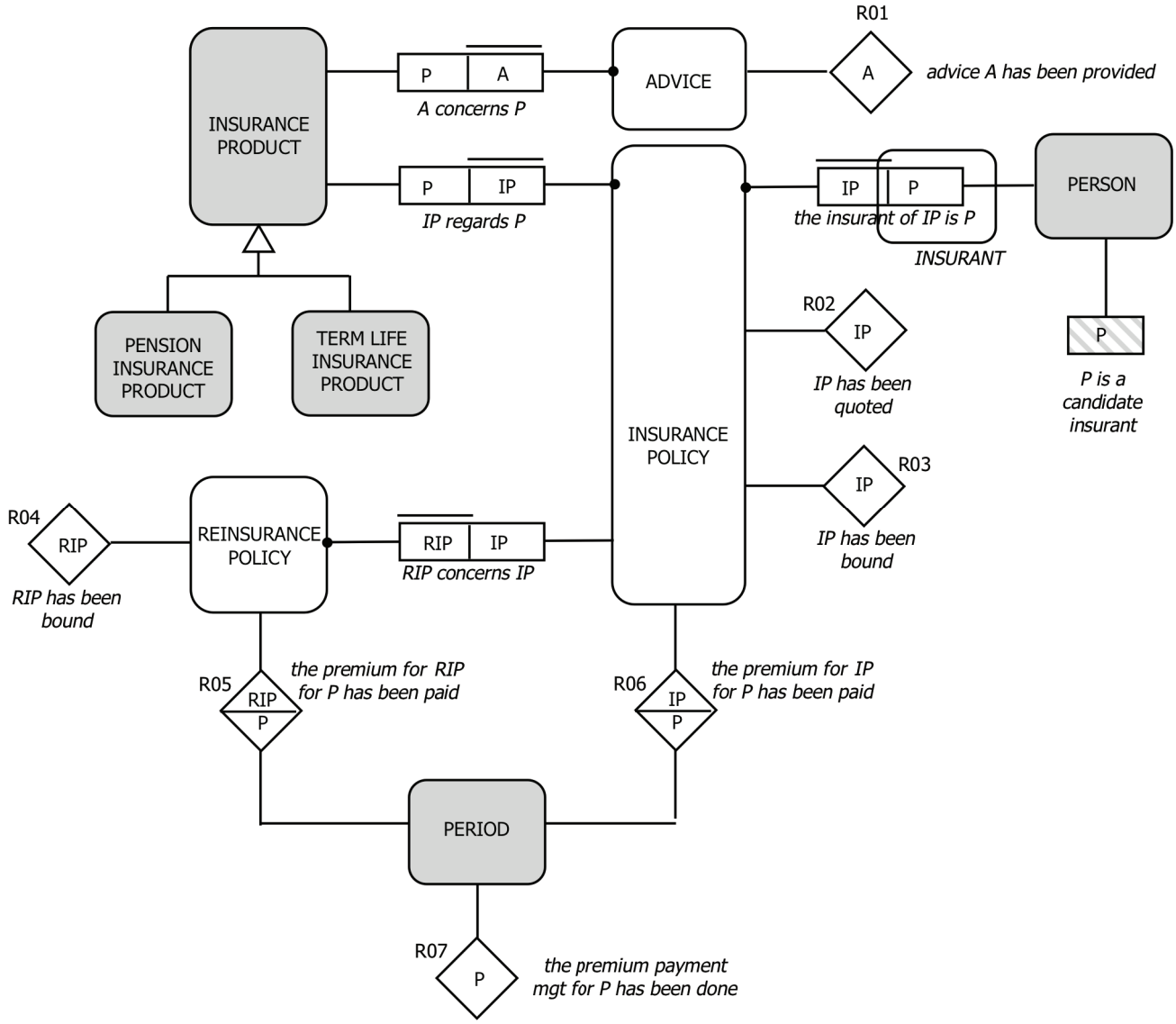
Object Fact Diagram



Object Property List

Property	Domain	Range	Scale type
periodic premium for IP	INSURANCE POLICY	EURO	R
periodic premium for RIP	REINSURANCE POLICY	EURO	R

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Organization Construction Diagram